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# What elements of Leadership have most impact in Integrated Care Teams and Do They Have a Measurable Effect on Patient Outcomes?

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## Background

Current NHS policy is focused on creating regional "Integrated Care Systems" (ICS) across England. The aim of ICS's are to cost effectively deliver integrated health and social care services to the local populations they serve. At strategic level, the key mechanism for achieving ICS are to allocate single health and social care budgets to regional ICS organisations. These organisations are collaboratives between regional health and social care providers. The idea is that these organisations will be able to commission and deliver more integrated and cost-effective health and social care services, eliminating competition and duplication amongst providers and creating more seamless health and social care services.

To fully realise these strategic aims, however, at operational level the health and social care workforce, will have to work effectively together in integrated teams. Achieving effective integrated teamwork may be challenging however, particularly as Health and Social care services are delivered by a wide range of professions and disciplines, many of which have a strong professional identity. A key to maximising the effectiveness of these teams will be to ensure that they have leaders with the appropriate skills. Integrated team leadership is however, still a relatively new concept.

## Study Aims

This research aimed to build on earlier work to identify the key elements of leadership in Integrated Care Teams (Smith, Fowler-Davis, Enderby, Nancarrow, Ariss, 2018). The specific questions were:

1. What is the relationship between effective leadership, and team and individual staff level dynamics in integrated health and social care teams?
2. Does leadership have an observable effect on patient outcomes in integrated health and social care teams?
3. Do team and individual staff level variables, have an observable affect on patient outcomes?

## Study Design

Eleven (11) community based rehabilitation, integrated health and social care teams (CRAICS) were recruited into this research. These teams have been working across the traditional boundaries of health and social care for a number of years, and commonly contain professionals and other disciplines, from across health and social care, including: Nurses, allied health and social work professionals, together with a range of support workers.

Over a 6 month period 253 staff in participating teams completed a 360 degree feedback exercise, for the 11 CRAICS leaders, utilising the Multifactor Leadership Questionnaire (MLQ) Form 5x (Avolio and Bass, 2004). This questionnaire was chosen as previous studies of integrated team leadership had identified variables that were similar to those in the M:LQ. Further, the MLQ is considered statistically valid and reliable and has been used in numerous published leadership research projects. During data gathering period the 253 CRAICS members also completed the Workforce Dynamics Questionnaire (Nancarrow et al., 2006) a validated tool to measure dynamics in health and social care teams.

Finally, cross sectional patient data was collected, at 2 time points: before and after the collection of leadership and team level data, utilising the Therapy Outcome Measures (TOMS) (Enderby and XXXXX, 20xx) and European Quality of Life indicator, EQ5D (REFERENCE).

## Analysis

Analysis of quantitative data in the cross-sectional study used the same techniques for each of the questions. Data was entered into SPSS version 19 into separate databases for each proforma. After data cleaning, the data sets were aggregated to team level.

Different combinations of predictor and outcome variables were tested using both analysis of variance (ANOVA) and analysis of covariance (ANCOVA). Both ANOVA and ANCOVA are forms of regression analysis (Field, 2005). ANOVA is used when the predictor variable and categorical outcome variable are continuous. ANCOVA is used when there are additional predictor variables, which may be continuous or binary. It allows the examination of the combined effect of two or more predictor variables on a single outcome. In this case an independent factorial design was used as several independent variables had been measured using the different tools..

**Question 1. What is the relationship between effective leadership, and team and staff level dynamics in integrated health and social care teams?** In this analysis Leadership variables were tested against staff and team level outcome variables, to test whether and how much leadership styles affected the team and individual staff within them,

**Question 2. Does leadership in integrated health and social care teams have an observable effect on patient outcomes?** In this analysis Leadership variables were tested against Patient outcome variables to test if there is an observable relationship between leadership behaviour and patient outcomes.

**Question 3. Do team and staff level dynamics, in integrated health and social care teams, have an observable affect on patient outcomes?** In this analysis Team dynamics variables were tested against Patient outcome variables to test , to test whether and how much Team level dynamics impacts patient outcomes.

Table 1. - Leadership, Team and Staff level, and Patient Outcome Variables utilised in the analysis

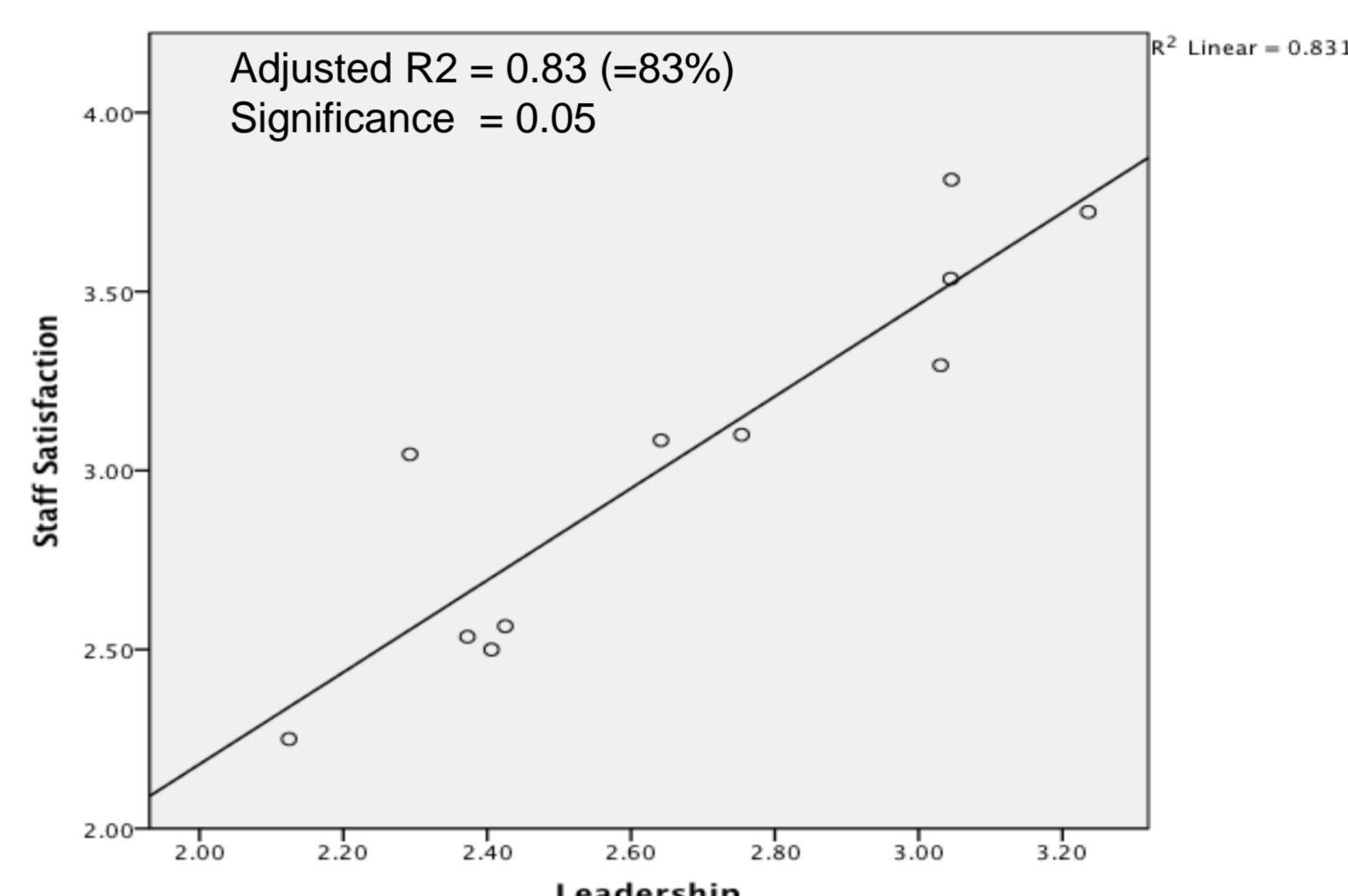
| Leadership variables                                   | Team Dynamics Variables              | Patient Outcome Variables    |
|--|--------------------------------------|------------------------------|
| Leadership Summary Variable LTT (PFL and TFL combined) | Staff Level Outcomes                 | TOMS summary variable TOMS   |
| Person-focused (Transformational) Leadership PFL       | • Leadership Outcomes (MLQ)          | TOMS impairment change Ti    |
| Task focused Transactional Leadership TFL              | • Effectiveness E                    | TOMS activity change Ta      |
| Passive Avoidant Leadership PAL                        | • Extra- Effort EE                   | TOMS wellbeing change Tw     |
|  | • Satisfaction S                     | TOMS participation change Tp |
|  | • Intention to leave (employer) lLe  | EQ-5D change Eq              |
|  | • Intention to leave (profession) lP |                              |
|  | Team Level Outcomes                  |                              |
|  | • Integration I                      |                              |
|  | • Team working Tm                    |                              |
|  | • Management M                       |                              |
|  | • Training/career progression T/CP   |                              |
|  | • Empowerment Em                     |                              |
|  | • Communication C                    |                              |
|  | • Clarity of Leadership CL           |                              |
|  | • Sense of Direction SD              |                              |

## Results

Relationships between variables were judged to be significant if they met the threshold of 0.5 (95%). If they met this threshold then a secondary measure of adjusted R squared was used to estimate the strength of the affect of the predictor variable(s) on the outcome variables.

An example of this relationship can be seen opposite in figure 1. In this example we can see that the affect of leadership on staff satisfaction is significant, and there is a correlation of 0.83%. This means for every unit (i.e. 1.0) increase in leadership effectiveness, staff satisfaction increases by 0.83 or 83%.

Figure 1. The impact of Leadership (LTT) on staff satisfaction (S).



### Question 1. What is the relationship between effective Leadership, and Team Level Dynamics in integrated health and social care teams?

| Team and Staff level Dynamics | Person-Focused and Task-Focused Leadership | Passive Avoidant Leadership |
|-------------------------------|--|-----------------------------|
| Consideration                 |  | -38%                        |
| Communication                 | +68%                                       | -71%                        |
| Management                    | +50%                                       | -50%                        |
| Clarity of Leadership         | +59%                                       | -50%                        |
| Sense of Direction            | +51%                                       | -37%                        |
| Satisfaction                  | +57%                                       | -65%                        |
| Uncertainty                   |  | +30%                        |
| Workload                      |  | +33%                        |
| Extra-effort                  | +93%                                       | -38%                        |
| Effectiveness                 | +88%                                       | -63%                        |
| Teamworking                   | +67%                                       |                             |
| Training & career progression | +41%                                       |                             |
| Intention to leave employer   | -67%                                       |                             |
| Intention to leave profession | -51%                                       |                             |

A strong and consistent relationship was found between Leadership and team and staff level dynamics.

Variance in Person-focused, Task-focused and Leadership significantly predicted variance in the staff outcomes, Satisfaction, Effectiveness and Extra-effort. Passive Avoidant leadership also had a strong negative correlation with a significant number of team and staff level dynamics

They also significantly predicted a range of team dynamics variables. These significant relationships are set out in table 3. opposite.

Table 3. significant results for question 1. (R2 expressed as a percentage.)

### Question 2. Does leadership in integrated health and social care teams have an observable effect on patient outcomes?

The results of this analysis show that Leadership variables did not directly effect Patient Outcomes within this study.

This is not wholly surprising. Leadership theories consistently assert that leadership affects team and individual staff dynamics increasing motivation, satisfaction leading to extra goal-directed effort and leading to improved team dynamics and performance

|  | Impairment | Activity | Participation         | Wellbeing | Eq5D |
|--|------------|----------|-----------------------|-----------|------|
| Person-focused (Transformational) Leadership |            |          |                       |           |      |
| Task focused Transactional Leadership TFL    |            |          | No effects observable |           |      |
| Passive Avoidant Leadership PAL              |            |          |                       |           |      |
| Significance                                 |            |          |                       |           |      |
| Adjusted R squared                           |            |          |                       |           |      |

### Question 3. Do team dynamics, in integrated health and social care teams, have an observable affect on patient outcomes?

No single team level variables had a significant effect on Patient Outcomes. However, a number of variables when combined did have a highly significant effect on Quality of Life. Effects on Therapy outcomes were close to significant.

Of all the team variables, communication had the largest single affect on patient outcomes

|                           | Impairment | Activity | Participation | Wellbeing | Eq5D |
|---------------------------|------------|----------|---------------|-----------|------|
| Significance              | .095       | .083     | .078          | .130      | .005 |
| Adjusted R squared        | 63%        | 66%      | 67%           | .454      | 93%  |
| Innovation                |            |          |               |           |      |
| Consideration             |            |          |               |           |      |
| Empowerment               |            |          |               |           |      |
| Communication             | 2%         | 11%      | 26%           | 32%       | 12%  |
| Teambuilding/ Maintenance |            |          |               |           |      |

|                    | Impairment | Activity | Participation | Wellbeing | Eq5D |
|--------------------|------------|----------|---------------|-----------|------|
| Corrected Model    | .069       | .060     | .108          | .266      | .079 |
| Adjusted R squared | 50%        | 52%      | 42%           | 19%       | 48%  |
| Extra-Effort       | .166       | -.098    | .163          | .301      | .320 |
| Effectiveness      | .020       | .020     | .033          | .089      | .018 |
| Satisfaction       | .033       | .035     | .052          | .116      | .022 |

No single staff level variables had a significant effect on Patient Outcomes.

When these variables were combined the results were close to significant.

Of all the team variables, communication had the largest single affect on patient outcomes

## Conclusions

Effective leadership in integrated teams has a significant and consistently strong effect on both team and individual staff level dynamics. There was no observable relationship between leadership and patient outcomes. However, there were some statistically significant relationships between combined team level variables and patient outcomes. No significant relationship was observed between individual staff level outcomes and patient outcomes. Further research is needed to investigate these relationships more fully, perhaps utilising a multilevel statistical model.

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